

Appl. No. 10/734,768
Reply to Office action of 10/13/2004

REMARKS

Reconsideration of the above-referenced application in view of the above amendment, and of the following remarks, is respectfully requested.

Claims 1-11 are pending in this case. Claim 6 is amended herein and claims are cancelled herein.

Claims 9-11 stand allowed.

Claim 6 was objected to be the Examiner as being dependent upon a rejected base claim but would be allowable if rewritten in independent form including all the limitations of the base claim and any intervening claims. Claim 6 is amended to include all the limitations of the base claim, claim 1, and the intervening claim, claim 5.

The Examiner rejected claims 1-5 and 7, 8 under 35 U.S.C. § 103(a) as being unpatentable over Besser et al. (U.S. Patent 6,773,978) and further in view of Mikagi (U.S. Patent 6,232,227).

Applicant respectfully submits that claim 1 is patentable over Besser et al in view of Mikagi as there is no disclosure or suggestion in the combined teachings of the references of forming a layer of nickel over a plurality of CMOS polysilicon gate structures, forming a capping layer over the layer of nickel, and then annealing to completely convert the CMOS polysilicon gate structures into NiSi gate electrodes. Besser et al teach a method for forming fully silicided gate electrodes and Besser teaches forming a capping layer over a layer of cobalt prior to annealing. However, Besser does not teach forming a capping layer over a layer of nickel. In col. 5, lines 32-37, Besser teaches "where the metal is formed of cobalt at 108, an optional cap layer may be formed" Further, at col 6, lines 12-18, Besser teaches "nickel can be

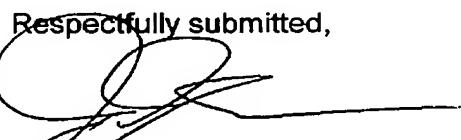
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employed as the metal layer formed at 108 . . . wherein no cap layer is needed." Besser clearly describes a cap layer being desirable for cobalt but not needed for nickel. Mikagi is applied by the Examiner to teach CMOS polysilicon gate electrodes. The references do not disclose or suggest forming a capping layer over a layer of nickel prior to annealing to completely convert the polysilicon gate structure to NiSi. Accordingly, Applicant respectfully submits that claim 1 and the claims dependent thereon are patentable over Besser in view of Mikagi.

The other references cited by the Examiner have been reviewed, but are not felt to come within the scope of the claims as amended. Similar to Mikagi, Puchner et al (6,727,165) teaches forming a thin silicide film over a silicon gate electrode using a process that includes a cap layer, but fails to disclose or suggest forming a layer of nickel over a plurality of CMOS polysilicon gate structures, forming a capping layer over the layer of nickel, and then annealing to completely convert the CMOS polysilicon gate structures into NiSi gate electrodes.

In light of the above, Applicant respectfully requests withdrawal of the Examiner's rejections and allowance of claims 1-11. If the Examiner has any questions or other correspondence regarding this application, Applicant requests that the Examiner contact Applicant's attorney at the below listed telephone number and address.

Respectfully submitted,



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